REMARKS

Claims 1-6 and 8-20 are presented for examination. Claim 19 has been amended to depend on claim 7, rather than claim 5, in order to more particularly point out and distinctly claim the subject matter to which Applicants regard as their invention.

Applicants respectfully submit that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated **December 19, 2006**.

Claims 1-4 and 8-20 are rejected under 35 USC '103(a) as being unpatentable over Okumura et al (US20020055030A1) in view of Hendershot et al (US006441060B1), Hefner Jr, et al (US004618658) and Nagasawa et al (US004205018).

Okumura, Hendershot, Hefner, and **Nagasawa** fail to disclose the present invention recited in claims 1-4 and 8-20 because the combined disclosure of the cited references do not teach the following:

(1) (meth)acrylate having a number average molecular weight in a range of 500 to 10,000; containing 20% to 80% by weight of an aromatic cyclic structure unit and/or and aliphatic cyclic structure unit; and, containing no active hydrogen atom;

(2) epoxy(meth)acrylate having a hydroxyl value in a range of 100 to 300; and the epoxy(meth)acrylate reacting with polyisocyanate

(3) the claimed conductive resin composition comprising both urethane(meth)acrylate and urethane-modified epoxy (meth)acrylate.

Furthermore, the Office Action's assertion regarding urethane-modified epoxy (meth)acrylate resin contradicts its assertion with respect to a molar ratio of a hydroxyl group of the epoxy (meth)acrylate (b-1) to an isocyanate group of polyisocyanate (b-2) being hydroxyl group/isocyanate group = about 0.7/1 to 1.2/1.

(meth)acrylate (C)

Claims 1-6 and 8-11 define a conductive resin composition limited by the following features:

1. the conductive resin composition comprises a (meth)acrylate (C);
2. the number average molecular weight of the (meth)acrylate (C) is in a range of 500 to 10,000;
3. the (meth)acrylate (C) contains 20% to 80% by weight of an aromatic cyclic structure unit and/or and aliphatic cyclic structure unit; and,
4. the (meth)acrylate (C) contains no active hydrogen atom.

The combined disclosure of the cited references fail to teach or suggest meth(acrylate) (C) having the limitations of features 2 to 4. The Office Action notes that **Okumura** teaches an example of "urethane(meth)acrylate . . . having a number average

molecule weight of 500 to 10,000, also 20 to 80wt% of an aromatic cyclic structural unit and/or an aliphatic cyclic structural unit and no active hydrogen atom." (Office Action, p. 5, last ¶). Applicants respectfully disagree that the section entitled "(3) Urethan(meth)acrylate" of **Okumura** teaches urethane(meth)acrylate having the limitations of features 2 to 4. Even if urethane(meth)acrylate were to be substituted for (meth)acrylate to achieve the present invention, the urethane(meth)acrylate would have to have a number average molecular weight in a range of 500 to 10,000; contain 20% to 80% by weight of an aromatic cyclic structure unit and/or and aliphatic cyclic structure unit; and, contain no active hydrogen atom. **Okumura** does not disclose such a molecule.

The cited references do not disclose (meth)acrylate defined by features 2 to 4 and, therefore, fail to teach or suggest the present invention which requires this ingredient.

epoxy(meth)acrylate

The claims further define a conductive resin composition limited by the following features:

5. the conductive resin composition comprises a urethane-modifed epoxy (meth)acrylate (B);

6. the urethane-modified epoxy (meth)acrylate (B) is obtained by reacting an epoxy (meth)acrylate (b-1) with a polyisocyanate (b-2);
7. the epoxy (meth)acrylate (b-1) is obtained by an addition reaction of an epoxy resin having an aromatic cyclic structural unit and/or an aliphatic cyclic structural unit and a (meth)acrylic acid; and
8. the epoxy (meth)acrylate (b-1) has a hydroxyl value in the range of 100 to 300.

The Office Action asserts that "the epoxy (meth)acrylate of prior art [**Okumura**] would inherently possess the hydroxyl value from 100 to 300." (Office Action, p. 5, ¶ 2 from bottom). Applicants respectfully disagree.

In the present invention, epoxy(meth)acrylate having a hydroxyl value in the range of 100 to 300 (feature 8) is reacted with polyisocyanate (feature 6). By defining the present invention with features 6 and 8, viscosity suited for molding is obtained by the chain elongation reaction with the polyisocyanate, thus making it possible to obtain a high-quality molded article with fewer defects such as voids. That is, the claims define a hydroxyl value of the epoxy(meth)acrylate in a range of 100 to 300 in consideration of the chain elongation reaction with the polyisocyanate.

In contrast, **Okumura** does not teach epoxy(meth)acrylate (b-1) that is reacted with polyisocyanate (b-2). In Example 1 of **Okumura**, a bisphenol A type epoxy resin and a methacrylic acid were reacted to produce a vinylester resin (i.e., epoxy (meth)acrylate), and a resin composition containing the obtained vinylester resin,

styrene monomer, and graphite powder was obtained. In other words, in **Okumura,** the epoxy(meth)acrylate itself is used, rather than reacted with another compound (polyisocyanate) as in the present invention. Therefore, the hydroxyl value of 100 to 300 is not inherent in **Okumura** (since, as discussed above, the claims specify a hydroxyl value of epoxy(meth)acrylate in a range of 100 to 300 in consideration of the reaction between the epoxy(meth)acrylate and polyisocyanate).

Furthermore, although **Hendershot, Hefner**, and **Nagasawa** may disclose urethane-modified epoxy (meth)acrylate, none of the cited references disclose epoxy(meth)acrylate having a hydroxyl value in a range of 100 to 300.

substituting urethane(meth)acrylate with urethane-modified epoxy(meth)acrylate

The Office Action asserts that the combined disclosure of **Okumura** and **Hendershot** teach the present invention because it would have been obvious at the time of the invention to replace **Okumura**'s urethane(meth)acrylate with **Hendershot**'s urethane-modified epoxy(meth)acrylate. (Office Action, p.5, ¶ 2). However, the present invention requires both urethane(meth)acrylate and urethane-modified epoxy(meth)acrylate. Assuming arguendo, that it would be obvious to combine replace **Okumura**'s urethane(meth)acrylate with **Hendershot**'s urethane-modified epoxy(meth)acrylate, the resulting composition would not contain a urethane (meth)acrylate (C) which is an essential component of the claimed composition. In other words, in order to achieve the present invention, only a portion of **Okumura**'s

urethane(meth)acrylate may be replaced with **Hendershot**'s urethane-modified epoxy (meth)acrylate. However, the cited references fail to teach or suggest replacing only a portion of urethane(meth)acrylate with urethane-modified epoxy (meth)acrylate, so that some urethane(meth)acrylate remains. Therefore, the combined disclosure of **Okumura** and **Hendershot** fails to disclose the present invention's necessary ingredients of both urethane(meth)acrylate and urethane-modified epoxy (meth)acrylate.

urethane-rnodified epoxy (meth)acrylate resin

On p.4, lines 18-19, the Office Action asserts that **Okumura** does not teach a urethane-modified epoxy (meth)acrylate resin. However, on p. 5, ¶ 3, the Office Action asserts that **Okumura** discloses a molar ratio of a hydroxyl group of the epoxy (metli)acrylate (b-1) to an isocyanate group of polyisocyanate (b-2) being hydroxyl group/isocyanate group = about 0.7/1 to 1.2/1. These two assertions completely contradict each other.

With respect to the patentability of claim 12, given that this claim closely mirrors claim 1, Applicants respectfully apply the reasons discussed above to claim 12.

With respect to the separator recited in claims 13-20, given that the separator is composed of the conductive resin composition defined by claim 1, the cited references

fail to teach or suggest claims 13-20 for the reasons discussed above.

In light of the foregoing, Applicants respectfully submit that the cited references, in combination, fail to teach or suggest the present invention recited in claims 1-6 and 8-20. Therefore, it is requested that this rejection be reconsidered and withdrawn.

In view of the reasons discussed above, claims 1-6 and 8-20 are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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